

For the scenario below identify the entities, their attributes and appropriate keys

Finsbury Happy Zoo

Finsbury Happy Zoo's concept is to show animals together in their habitats. They have a number of enclosures of different habitat types (such as forest or tundra), different sizes (square metres), each having a main feature (such as a stream or a cave). Animals of different species share the same enclosure. Each enclosure has a unique number and there can be several enclosures with the same habitat but with a different main feature or of a different size. Each animal has a unique ID, and their name, date_of_birth, diet and description are stored. When an animal is put in an enclosure, the start date is recorded, and if they are transferred to another enclosure the end date is recorded. Zoo keepers may need to make a note about a particular animal, for example "not eating well today" and this is recorded along with the date. To make sure the animals don't eat each other a species compatibility table is maintained which has the following information; speciesA, speciesB, compatibility_rating (5 for happy neighbours to 1 for bitter enemies). Species are identified by their name, and a description of the species and their habitat type are recorded. Species are matched against enclosures by Zoo staff, and if suitable the maximum number of animals of a particular species for a particular enclosure is recorded to prevent overcrowding.

Enclosure

Enclosure_Num (Primary Key) = 1

Habitat_Type = Forest

Enclosure_Size = 1000sqm

Main_Feature = Stream

Species

Species_Name (Primary key) = Tiger

Habitat_Type = Forest

Species_Description = Large carnivorous cat with stripes

Enclosure_Species

Enclosure_Num (Foreign key) = 1

Species_Name (Foreign key) = Tiger

Max_Animals = 3

Animal

Animal_ID (Primary key) = A001

Animal_Name = Kurama

Date_Of_Birth = 01/01/2015

Animal_Diet = Carnivore

Animal_Description = Fierce male tiger with striking patterns and sharp teeth

Animal_Enclosure

Animal_ID (Foreign key) = A001

Enclosure_Num (Foreign key) = 1

Start_Date = 01/06/2017

End_Date = Null

Animal_Notes

Animal_ID (Foreign key) = A001

Keepers_Note = Not eating well today

Note_Date = 02/10/2022

Compatibility

Species_A (Foreign key) = Tiger

Species_B (Foreign key) = Deer

Compatibility_rating = 1

Example queries (Minimum 5 – list, who, which, how many, most, fewest etc. - check that you have listed the attributes needed to answer your queries)

- 1) Of the tiger species what is the maximum amount permitted within an enclosure?
- 2) What is the name of the oldest animal within enclosure 1?
- 3) Which species tends to move enclosures most frequently?
- 4) How many species currently exist within enclosure 1?
- 5) Which enclosure has the fewest number of species existing within it?
- 6) What is the ratio of carnivores to herbivores within enclosure 1?
- 7) Which enclosure is largest in size?
- 8) Which species has the lowest average compatibility rating amongst all animals?